



**GEORGIA
GeoSciences_{LLC}**

LEVEL 3 SOIL SURVEY REPORT

**6421 HONEYSUCKLE LANE
GAINESVILLE, HALL COUNTY, GEORGIA 30506**

GGG PROJECT NUMBER: 20230218

Prepared For:

**Ms. Aimee Gonzalez
3112 Biltmore Woods Drive
Buford, GA 30519**

Prepared By:

**Georgia GeoSciences LLC
4085 Winterberry Road
Cumming, Georgia 30040**

FEBRUARY 18, 2023



**GEORGIA
GeoSciences LLC**

Cell: (404) 840-1044
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February 18, 2023

Ms. Aimee Gonzalez
3112 Biltmore Woods Drive
Buford, GA 30519

Subject: **Level 3 Soil Survey**
6421 Honeysuckle Lane
Gainesville, Hall County, Georgia 30506
GGS Project Number: 20230218

Dear Aimee:

Georgia GeoSciences LLC (GGS) is pleased to provide this Level 3 Soil Survey performed at the above-referenced property located at 6421 Honeysuckle Lane in Gainesville, GA on February 18, 2023. Hall County tax records identify the subject property as Parcel ID# 10011D000045, which consists of 0.42 acres.

This soil survey was performed to determine if soils at the property are suitable for the operation of an on-site septic system drainfield or absorption field. Based on subsurface conditions and our visual observations, the on-site soils within the area explored should have the ability to function using a conventional on-site septic system and drainfield or a conventional-type system such as a chamber system. Portions of the property were graded (i.e., a former driveway and home-site) and encountered fill material ranging from 30 to 48 inches thick. The fill material appears unsuitable for a drainfield; therefore, the installation should be performed such that the bottom of the drain lines or chamber system are in contact with native soils.

GGS is thankful for the opportunity to have worked with you on this project. Please feel free to contact me if you have any questions regarding this report or if we can be of additional service. I can be reached at (404) 840-1044 or by electronic mail at GeorgiaGeoSciences@gmail.com.

Sincerely,
Georgia GeoSciences LLC

Steven D. Jarvis, P.G.
Managing Member
Georgia Soil Classifier as a Professional Registered Geologist

WILL YOUR SOIL WORK FOR YOU?



PROPERTY INFORMATION						
Date of Survey: February 18, 2023			Level of Survey Intensity: 3			
Site Location: 6421 Honeysuckle Lane Gainesville, GA 30506			Land Owner/Client: Ms. Aimee Gonzalez			
Subdivision: Timber Ridge (Lots 20-24 Block J)			Property Owner Phone: [REDACTED]			
County: Hall			Map Scale: 1 inch = 30			
ESTIMATED/INTERPRETIVE SOIL PROPERTIES ON MEASUREMENTS						
SOIL SERIES	SLOPE %	DEPTH TO BEDROCK (inches)	DEPTH TO SEASONAL HIGH H2O TABLE (inches)	ABSORPTION RATE AT RECOMMENDED TRENCH DEPTH (MIN/IN.)	DEPTH TO OPTIMUM PERCOLATION (inches)	SUITABILITY CODE
MADISON (under fill)	20-40%	>72	>72	50	30 to 48**	A
MADISON ("cut")	20-40%	>72	>72	50	24 to 48	A
MADISON	20-40%	>72	>72	50	24 to 48	A
GROVER	20-30%	52*	>72	50	18 to 24	A
Map Unit Suitability Codes						
A	These soils are generally suitable for installation of on-site systems with proper system design, installation, and maintenance when not installed in fill material. Position of the site or other soil and landscape considerations may require the drainfield area to be greater than the minimum and/or the drainfield design to require equal distribution or level field installation.					
<p>*Hand auger refusal was encountered at 52 inches in the Grover Soil Series due to an apparent stone/boulder inclusion or partially weathered rock. In general, this soil series has a moderate depth to bedrock, which is reportedly greater than 60 inches.</p> <p>**Depth Range Selected for Optimum Percolation takes into consideration the thickness of the fill material observed in GGS Soil Borings S-1 and S-3. It is <u>not</u> recommended that the drainfield be located within the existing fill material; however, the drainfield trenches can be excavated through the fill material so long as the bottom of the drain lines/chamber system (if this system is used) are in contact with native soil. The fill material was apparently generated when the driveway and former home-site was "cut". This "cut" material was spread as soil fill along the eastern portions/edges of the driveway for leveling purposes due to the slope. The "cut" driveway roughly parallels Honeysuckle Lane while the "cut" former home-site is located on the southwest corner of the property.</p> <p>The eastern portions/edges of the graded driveway and former home-site are located in soft unsuitable fill material while the western portions of the driveway and former home-site are in "cut" which are native soils of the Madison Soil Series. Beyond the eastern edges of the driveway are native soils and the natural slope line, which terminates downhill into a drainage feature. The native soils identified on the natural slope line consists of the Madison and Grover Soil Series, which should have the ability to function using a conventional or conventional-type (chamber) on-site septic system.</p>						



Be advised that the property was not surveyed prior to this Level 3 Soil Survey. The site survey may indicate certain buffers and/or building setbacks associated with the wet weather drainage feature, which traverses the eastern side of the property and tracks northeastward towards Lake Lanier. Therefore, if septic field drain lines are installed along the contours of the natural slope, it is possible that the local Environmental Health Department may require an aerobic treatment unit (ATU) due to the close proximity to the drainage feature. An ATU would not be needed if the drain lines are installed on the upper elevations of the property within the "cut" and "filled" driveway and former home-site area.

General Notes and Information for Septic Tank Designer/Installer

- (1) Subsurface soil conditions in the vicinity of GGS Borings S-1, S-2, S-3, S-4, and S-5 should have the ability to function using a conventional on-site septic system and drainfield with proper design, installation, and maintenance when not installed in fill material (i.e., S-1 and S-3).
- (2) GGS Borings S-1 and S-3 encountered fill material at depths of 36 inches and 30 inches, respectively. Drain lines must be installed in a manner where the bottom of the drain lines/chamber system are in contact with native soils.
- (3) GGS Boring B-2 was in a "cut" area of the driveway. "Cuts" for the driveway appear to be on average of 3 to 5 feet deep, and these "cuts" have removed the upper soil horizons and portions of the upper and lower control soil horizons.
- (4) GGS Borings S-4 and S-5 were explored on the natural slope line, which terminates downhill into a wet weather drainage feature. Surface water was noted in the drainage feature at the time of this Level 3 Soil Survey.
- (5) Installer options for the drainfield would include: (A) across the existing driveway and former home-site "cuts" (ensuring the drain lines are not in fill material) as explored by GGS Borings S-1, S-2, and S-3. Going in the uphill direction of the driveway will likely require a pump(s); (B) if the home is constructed where the former home-site was located (southwest corner of the property), the septic tank may be placed near GGS Boring S-1 with the trenches for the main-line and field lines extending out towards GGS Borings S-5 to S-4 along the contours; and (C) if house is built within the upper elevations of the property ("cut/filled" driveway area) either the natural slope may be used for the drain lines along the contours between S-5 towards S-4 or vice versa and down slope if additional lines are needed, or refer back to (A). The local environmental health department may require Class I Effluent utilizing an aerobic treatment unit (ATU) if the natural slope (GGS Borings S-4 and S-5) is used due to its proximity to the wet weather drainage feature.
- (6) Given the steepness of the natural slope area, care must be taken to minimize runoff from inundating the drainfield. This may be accomplished via a berm or curtain drain.
- (7) **Care must be taken to prevent smearing of walls and trench bottoms during drain line installation in silty and clayey soils.** "Smeared" conditions can reduce percolation rate and cause premature failure. As such, drain lines should be installed in dry soil conditions. If smearing cannot be prevented during installation, clayey soils should be picked/raked/scarified prior to installation of the distribution media.
- (8) Municipal drinking water will likely be connected to the property. If a water well is required, septic tanks must be at least 50 feet away from the well while the drainfield must be a minimum of 100 feet away.
- (9) Rocky/stony materials and rock inclusions are common in this geology and were encountered in several of the borings. Any large-scale rocks/boulders should be removed from the trenches where the drain field will be installed.
- (10) A hand auger boring summary describing the soils encountered at the property is attached to this report.
- (11) Borings were measured from pertinent site features using a tape measure, compass, and a sub-meter GPS device (BAD ELF GNSS). The boreholes were marked in the field using pink flags and orange flagging tape and were numbered accordingly. The borings were not backfilled should the local Environmental Health Specialist wish to also observe the soil conditions encountered.
- (12) A land/boundary survey of the property was not yet performed prior to GGS performing the Level 3 Soil Survey. When surveyed, certain buffer or building setback requirements may need to be followed as a result of the wet weather drainage feature.
- (13) Be advised that the soil borings advanced as part of this study represent a small statistical area and may not be entirely representative of a larger area. The soil boundary lines on the Figure are not exact and are interpreted. Soil Series can change quickly over short distances. Any unusual conditions encountered during septic system installation should be brought to GGS's and the local Environmental Health Specialist's attention immediately.



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- (14) This soil survey was performed in general accordance with the Georgia Manual for On-site Sewage Management Systems (Updated June 2019), requirements for a Level 3 Soil Survey.
- (15) A soil survey cannot guarantee the proper performance and predict the longevity of an on-site sewage management system. As with any septic system, routine maintenance is required by the owner.
- (16) This report is void in areas where cuts or fills of more than 12 inches occurs in the proposed drainfield/absorption field locations after the time of the field study.
- (17) Be advised that the local Environmental Health Specialist has final jurisdiction over permitting and regulating on-site sewage management systems. Any non-conventional system design and installation must be approved by the local Environmental Health Specialist.

Prepared/Certified by: _____

Steven D. Jarvis, P.G.

Registered Professional Geologist - PG#1769



Attachments: Figure 1 - Level 3 Soil Survey Site Plan
Hand Auger Summary
Photolog
Tax Records
Insurance

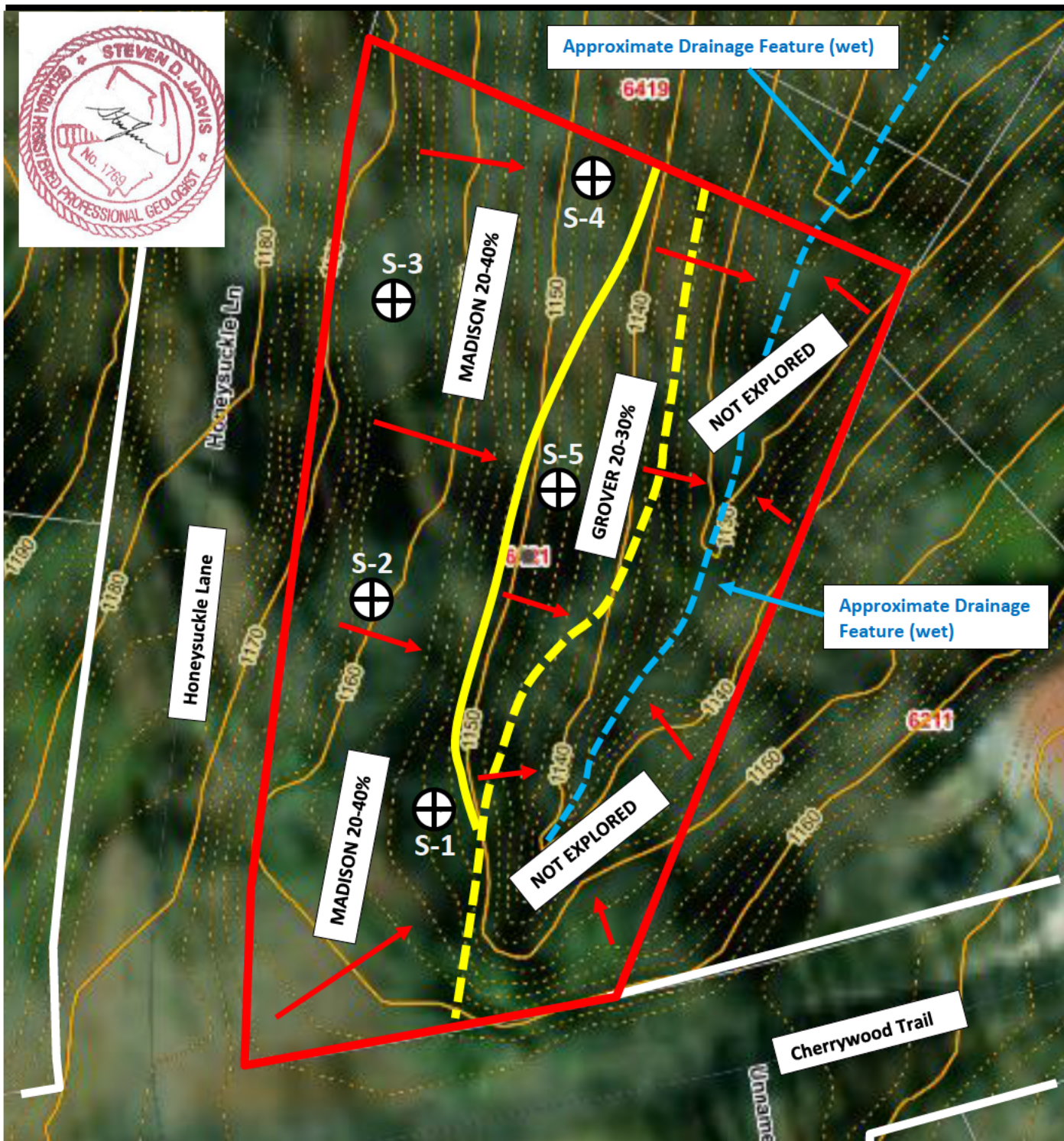


Figure 1 – Level 3 Soil Survey Site Plan

<p>Map Source: Hall County GIS (2021 Aerial Imagery)</p>	<p>Ms. Aimee Gonzalez 6421 Honeysuckle Lane Gainesville, Hall County, Georgia</p>	<p> = Property boundary = Soil Survey Boring Location = Falling Slope Direction = Soil Series Boundary (yellow solid) = Limits of Exploration (yellow dashed) </p>
<p> N </p>	<p> GEORGIA GeoSciences LLC 4085 Winterberry Road Cumming, GA 30040 GGS Project # 20230218 </p>	<p> 0 30 60 90 Scale: 1 inch = 30 feet </p>



**6421 HONEYSUCKLE LANE
GAINESVILLE, HALL COUNTY, GEORGIA 30506**

TABLE 1. HAND AUGER BORING SUMMAY

Hand Auger Boring ID#	Depth of Boring	Depth to Groundwater	Soil Description
S-1	Fill to ~36 inches 78 inches (Terminated)	None Encountered	<p>Surface Conditions: Leaves / Near Approximate 4-Foot "Cut Area"</p> <p>Previously Placed Fill: (Ground surface to 36 inches): Multicolored (brown, red, yellow) silty medium to fine sandy CLAY, micaceous, rock fragments and organics</p> <p>Residuum/Native Piedmont Soils: (36 to 65 inches): Red silty medium to fine sandy CLAY, highly micaceous, weathered schist fragments (65 to 78 inches): Yellowish-red silty medium to fine sandy CLAY, slightly micaceous, quartz fragments, weathered schist fragments</p>
S-2	84 inches (Terminated)	None Encountered	<p>Surface Conditions: Leaves / "Approximate 5-Foot Cut Area"</p> <p>Residuum/Native Piedmont Soils: (Ground surface to 30 inches): red silty medium to fine sandy CLAY micaceous to highly micaceous, soft weathered mica schist lenses between 6 to 24 inches (30 to 52 inches): SAPROLITE (yellowish-red, brown, black) slightly clayey silty medium to fine SAND, micaceous, weathered schist fragments (52 to 68 inches): SAPROLITE (black, yellow, white) silty medium to fine SAND, micaceous, weathered schist fragments (68 to 84 inches): SAPROLITE (black, brown, white) silty medium to fine SAND, slightly micaceous</p>
S-3	Fill to ~30 inches 77 inches (Terminated)	None Encountered	<p>Surface Conditions: Leaves / Near Approximate 4-Foot "Cut Area"</p> <p>Possible Fill: (Ground surface to 6 inches): Strong brown silty medium to fine SAND, gravel/stone from former driveway (6 to 17 inches): Red silty medium to fine sandy CLAY, brown mottles from weathered schist, weathered gneiss and schist fragments (17 to 30 inches): Yellowish-red silty medium to fine sandy CLAY, slightly micaceous, weathered schist fragments</p> <p>Residuum/Native Piedmont Soils: (30 to 36 inches): Yellowish-red medium to fine sandy silty CLAY, micaceous (36 to 50 inches): Red and yellowish-red silty CLAY, micaceous, weathered gravel and cobbles of mica schist (50 to 65 inches): Strong brown silty medium to fine SAND, interlayered silty red medium to fine sandy CLAY pockets, micaceous, weathered schist fragments, saprolitic (65 to 77 inches): SAPROLITE (yellowish-brown and dark yellowish brown, brown, white) silty medium to fine SAND, weathered gneiss and quartz fragments</p>



Hand Auger Boring ID#	Depth of Boring	Depth to Groundwater	Soil Description
S-4	80 inches (Terminated)	None Encountered	Surface Conditions: Leaves/Pine Needles/Organics Residuum/Native Piedmont Soils: (Ground surface to 5 inches): Dark reddish brown slightly clayey silty medium to fine SAND, roots (5 to 10 inches): Yellowish-red silty CLAY (10 to 37 inches): Red fine sandy silty CLAY, micaceous (37 to 65 inches): Red silty medium to fine sandy CLAY, highly micaceous, weathered schist fragments (65 to 80 inches): Red and yellowish-brown silty medium to fine sandy CLAY, micaceous, weathered schist fragments, white weathered quartz, saprolitic
S-5	52 inches (Refusal on weathered rock or weathered stone/boulder inclusion)	None Encountered	Surface Conditions: Leaves/Pine Needles/Organics Residuum/Native Piedmont Soils: (Ground surface to 4 inches): Dark reddish brown slightly clayey silty medium to fine SAND, roots (4 to 11 inches): Yellowish-red silty medium to fine sandy CLAY (11 to 32 inches): Red medium to fine sandy silty CLAY, slightly micaceous to micaceous, trace quartz fragments (32 to 45 inches): Yellowish-red to red silty medium to fine sandy CLAY, quartz fragments, dark brown weathered gneiss fragments (45 to 52 inches): SAPROLITE (brown, black, white) silty coarse to fine SAND, gneiss and quartz fragments

***Terminated = Boring was successfully completed to a minimum depth of 72 inches and did not encounter refusal on hard or soft bedrock, impenetrable rock inclusions, or dense partially weathered rock.**

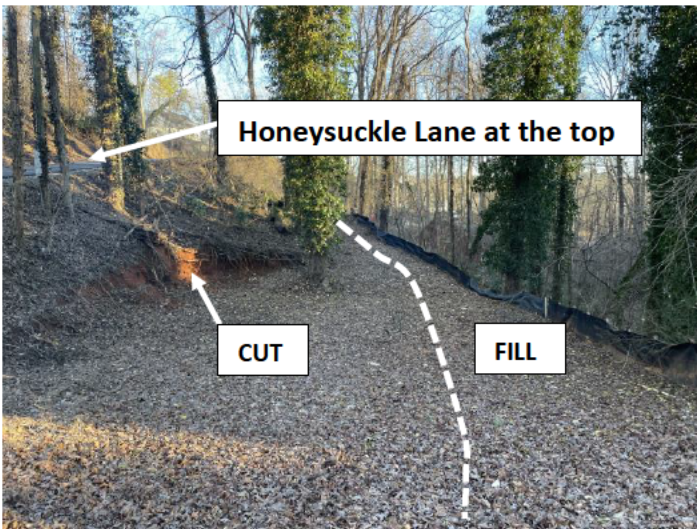
****Refusal = Boring was not successfully completed to a minimum depth of 72 inches and encountered rocky, stony, or bouldery inclusions of weathered rock or hard bedrock. Refusal on these materials limit and restrict hand auger penetration into the subsurface.**



View of Honeysuckle Lane; facing north. Property to the right of Honeysuckle Lane in the photograph.



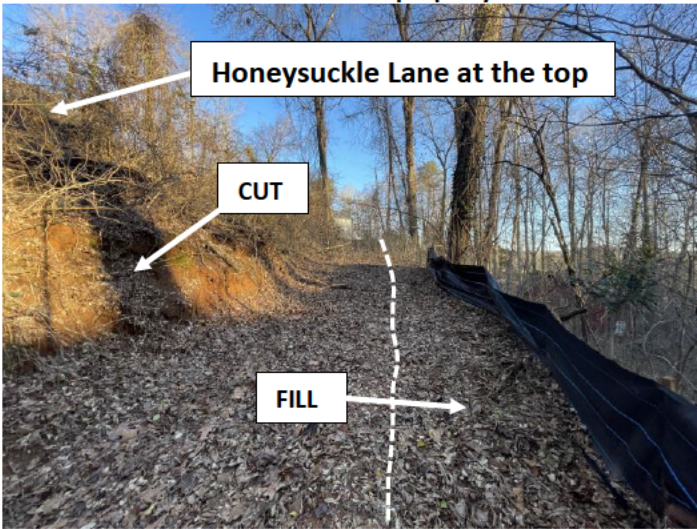
View of Cherrywood Trail; facing east. Property to the left of Cherrywood Trail in the photograph.



View of a former home-site and a "cut" driveway on the higher elevations of the property.



Another view of the "cut" driveway and fill placed on the driveway edge for leveling purposes.



Another view of the "cut" driveway with fill along the opposite edge of the driveway to the east side of Honeysuckle Lane.



View of the property sloping downward to a drainage feature (wet at the time of this soil survey).



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SITE PHOTOGRAPHS

6421 Honeysuckle Lane
Gainesville, Hall County, Georgia

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View of the property (slopes down to a drainage feature) looking from the top of the "cut" driveway.



View of the property (slopes down to a drainage feature).



View of the property (slopes down to a drainage feature).



View of the property (slopes down to a drainage feature).



View of the property (slopes down to a drainage feature).



View of the property looking uphill from the drainage feature towards the "cut" driveway and Honeysuckle Lane.



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View of the drainage feature that traverses the eastern side of the property (wet at the time of this soil survey).



Another view of the "cut" area for a driveway and former home-site along the eastern side of Honeysuckle Lane.



View of GGS Boring S-1.



Closer view of GGS Boring S-1.



View of GGS Boring S-2.



Closer view of GGS Boring S-2.



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View of GGS Boring S-3.



Closer view of GGS Boring S-3.



View of GGS Boring S-4.



Closer view of GGS Boring S-4.



View of GGS Boring S-5.



Closer view of GGS Boring S-5.



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Typical soil profile (GGG Boring S-2)



Typical soil profile (GGG Boring S-3)



Typical soil profile (GGG Boring S-4)



Typical soil profile (GGG Boring S-5)



View of refusal material (weathered rock) at GGS Boring S-5.



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